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Decision Making

New Collaborative Weather Forecast for the NAS

Weather Evaluation Team
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Agenda

- Motivation for evolving
- New CCFP: CDM Convective Forecast Product guidance. It is automated!
- Operational Bridging (OB) and the Collaborative Aviation Weather Statement (CAWS)
- 2015 Expectations with CAWS and CCFP as the primary weather forecast products used for Traffic Management Strategies

Motivation: Evolving the CCFP Concept

Collaboration

- Focus resources on highest potential traffic impact
- Reconcile multiple, often conflicting forecasts

Science

- Leverage advancements in weather forecasting including state-of-the-art computer modeling

Timing

- Accelerate delivery of high-confidence forecast information to support timely ATM decisions

NextGen Concepts

- Single Authoritative Source (SAS)
- Human Over The Loop of automated forecasts (HOTL)

Probabilistic Forecasts

- Multiple scenarios = fewer "surprise" disruptions
- **Operational Bridging:** strategic → tactical

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New CCFP

- Started 1 Nov 2014 with same look and feel as legacy CCFP
- Uses a blend of state-of-the-art computer models and draws polygons similar to forecaster-drawn polygons
- Scheduled product issued year-round to support SPT process
- Delivered to TFMS/TSD and via the web — no change for users
  - 2, 4, 6, 8 hour forecast on aviationweather.gov
  - 4, 6, 8 hour forecast on TFMS/TSD
- Issued every 2 hours at bottom of hour prior to SPT (30 minutes earlier than legacy CCFP)

AVIATION WEATHER CENTER

NOAA NATIONAL WEATHER SERVICE

Local Forecast | Go | HOME | ADVISORIES | FORECASTS | OBSERVATIONS | TOOLS | NEWS | SEARCH | ABOUT | USER

Experimental CDM Convective Forecast Planning Guidance

INFO

Plot | Scroll | ECFP

2 hour forecast

4 hour forecast

6 hour forecast

8 hour forecast

CONFIDENCE:

	LOW 25-49%	HIGH 50-100%
CONVECTIVE COVERAGE: SPARSE 25-39%		
CONVECTIVE COVERAGE: MEDIUM+ 40-100%		

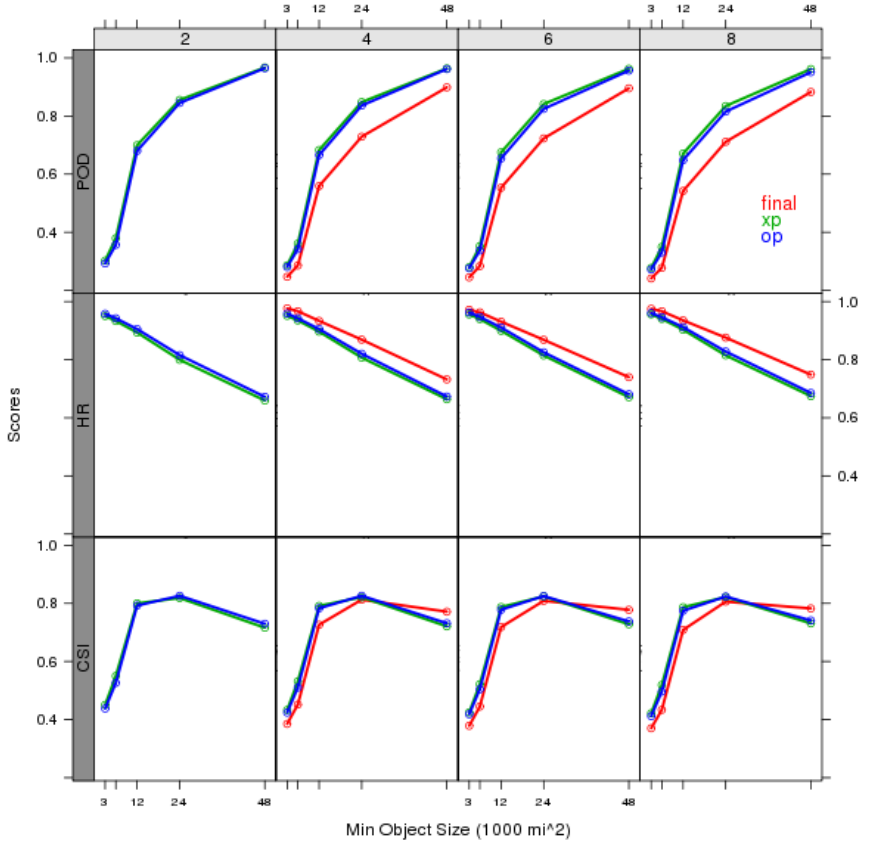
HEIGHT

TOPS: 100's OF FEET MSL

25000 - 29000	**290**
30000 - 34000	**340**
35000 - 39000	**390**
40000+	**>400**

New CCFP Evaluation

- New CCFP was run for the entire 2014 convective season
- NOAA-GSD evaluated March 3-October 31 vs legacy CCFP:
  - New CCFP has similar forecast skill to Legacy CCFP
  - New CCFP “performs well in high-traffic regions, on significant days, and during outages [of input models].”
  - Legacy CCFP has better focus on Med Coverage/High Confidence for NE AFPs



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Operational Bridging (OB)

- Focus weather forecast collaboration resources on events that most impact the NAS
- Take advantage of a blend of newer, higher resolution computerized weather forecast models
- Issue critical weather forecast information at the optimal time, even if it is between the usual 2-hour update cycle
- “Bridges” strategic and tactical time domains

Collaborative Aviation Weather Statement (CAWS)

- Event-driven (non-scheduled) advisory for US CONUS airspace began 3 March 2015
- Collaboration led by AWC; NWS, Industry meteorologists collaborating
- Contains both a text discussion and graphical picture of impacted region
- Issuance: event-driven with as much lead time as possible (goal 4 hours)
- Issued for Thunderstorms
- Delivered via the web (www.aviationweather.gov/caws)
- ATCSCC Info Advisory published when CAWS issued

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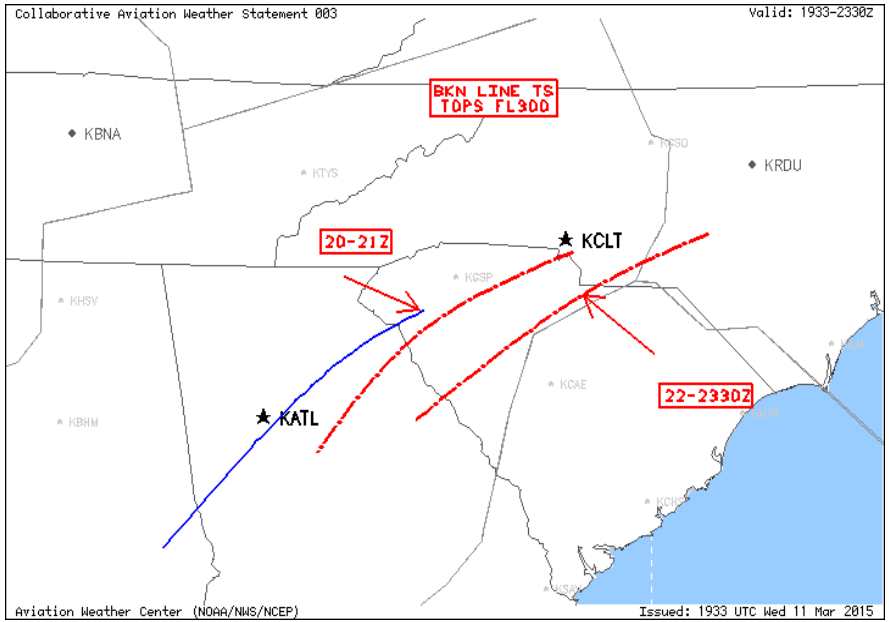
Example-CAWS



Collaborative Aviation Weather Statement 003
NWS Aviation Weather Center Kansas City MO
1933 UTC Wed 11 Mar 2015

Weather: Thunderstorms
Valid: 1933-2330Z

ARTCCs affected: ZDC, ZJX, ZTL
Terminals affected: KATL, KCLT

SUMMARY: Broken line thunderstorms probable over northwestern SC and south central NC thru 2330Z.

DISCUSSION: Broken line thunderstorms are probable over northwestern SC from 20-21Z, with maximum tops FL300. Broken line thunderstorms are probable over northwestern SC thru south central NC from 22-2330Z, with maximum tops FL300. Charlotte terminals to be effected.

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OB,CAWS,CCFP and TFM Strategies

- Starting Mar 2015 the CCFP supplemented by the CAWS will be the primary weather products utilized by Command Center to develop the Operational Plan

- “Both the scheduled (CCFP) and event-driven (CAWS) products will be considered the primary source of weather for TFM decisions with the event-driven product taking precedence over the scheduled product if there are differences.” - NextGen Aviation Weather Division ANG-C6

U.S. Department of Transportation
Federal Aviation Administration

January 16, 2015

Mr. Mark Zettlemoyer, Chief
Aviation Services Branch
National Weather Service
SSMC-2 RM 13308
1325 East West Highway
Silver Spring, MD 20910

Dear Mr. Zettlemoyer,

Enclosed, please find the Federal Aviation Admini
Weather Statement (CAWS) Preliminary Concept Requirements for the Collaborative Aviation Wea
documents are being developed as follow-up to the
Weather Statement to Support Collaborative Deci
National Weather Service (NWS) dated July 24, 20
CAWS, will provide Air Traffic Management (AT
delivery of high confidence, high relevance aviatio
those which predict that an anticipated constraint w
will terminate sooner than expected. This will allow
effectively adjust, initiate, amend or terminate plan
more efficient use of available airspace.

Background: Pursuant to Title 49 United States C
requirements for the weather information and servi
conduct of operations in the National Airspace Sys
Atmospheric Administration (NOAA) NWS may b
information and services necessary to meet the req

The Collaborative Convective Forecast Product (C
NOAA/NWS in collaboration with industry stakeh
the scheduled CDM product. It was valid for conve
March to October. The FAA has identified the oper
with an event-driven collaborative forecast product
only convective weather events for the first year be
weather that can potentially impact strategic NAS
will be the new collaborative product between the
A new process, Operational Bridging (OB), will de
meteorologist/TFM engagement protocols, and co

The FAA requires the continuation of a scheduled, objectively generated convective forecast product to support the Strategic Planning Call (SPC) every two hours. The content of the CCFP will remain as previously specified but the coverage will be expanded to 24/7, 365 days per year. Both the scheduled and event-driven products will be considered the primary source of weather for TFM decisions with the event-driven product taking precedence over the scheduled product if there are differences.

Next Steps: The FAA is in the process of defining performance requirements associated with OB and CAWS, using appropriate requirements validation processes/methodologies. Upon completion of the validation phase, FAA will transmit the performance requirements for the ***Collaborative Aviation Weather Statement*** to NWS.

Sincerely,

Richard J. Heuwinkel, Manager
NextGen Aviation Weather Division, ANG-C6

Cc: Mr. Robert Hunt, FAA, AJV-73
Mr. Kevin Johnston, FAA, AJR-12

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2015 Expectations: Feedback & Evaluation

- 2015 is an assessment period and will be a learning experience for all
- Evaluation of CAWS will take place over summer to refine requirements
- Input is needed to improve operational value:
  - Timing (initiation and cessation)
  - Identification of impactful events (missed events, prioritization)
  - Usability (format, language)
- Some adjustments by mid-season are possible

- Feedback
  - NTML end of shift summary
  - Customer shift comments
  - Summer assessment online survey
  - *CDM community is key – SPEAK UP!*
- Summer Assessment
  - Field observations & interviews
  - 6-8 events
  - ATCSCC, AWC forecasters, AOCs

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Q & A